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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,265	10/15/2001	Torsten Lorenz	420/50498	1078

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EXAMINER

ROSSI, JESSICA

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 08/01/2003

12

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/976,265	Applicant(s) LORENZ ET AL.	
	Examiner Jessica L. Rossi	Art Unit 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/2/03, Amendment A.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 12-14, 29 and 30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 12-14, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This action is in response to the amendment dated 6/2/03. Claims 10-11 and 15-28 were canceled. Claims 29-30 were added. Claims 1-9, 12-14, and 29-30 are pending.

2. The rejection of claims 1-14 under 35 U.S.C. 103(a) as being unpatentable over Lunn (of record) in view of Williams, as set forth in the previous office action, has been withdrawn due to the added limitation of curing after forming the profile parts.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-9, 12-14, and 29-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, it is unclear what is meant by the polymer layers ensuring bonding in overlapping areas of the semi-finished product sections (see specification p. 9, [0022]). According to Figure 3, the semi-finished product sections overlap when the polymer layers have smaller dimensions than the product sections. Since the polymer layers are not present in these overlapping areas, and the polymer layers are responsible for all of the bonding between product sections, how can the overlapping areas of the product sections be bonded? Applicants are asked to clarify.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Prevorsek et al. (US 5667029).

With respect to claim 1, Prevorsek is directed to making ballistic resistant fabric articles, such as body armor (abstract; column 1, line 10). The reference teaches alternately placing layers of cut dry fiber 14a-14e (column 5, line 42; column 3, lines 44-49) and thermosetting polymer layers 16a-16e (column 13, lines 1-2; column 14, line 25; column 3, lines 44-49) with predetermined shapes (column 12, lines 1-7) on top of each other to initially form a bonded fabric. The reference teaches molding the fabric and polymer layers by subjecting the same to heat and pressure (column 22, lines 1-6) wherein the skilled artisan would have readily appreciated that such would only be possible with the aid of some type of working surface.

The reference teaches the shapes of the polymer layers ensuring bonding in overlapping areas of inner cut semi-finished fabric layers and cut semi-finished fabric layers that form outer sides of the fabric article (Figure 4; column 12, lines 1-13; column 22, line 51 – column 23, line 5). The reference teaches providing local recesses (i.e. slits/perforations) in the polymer layers in order to maintain the flexibility of the article after bonding of the fabric and polymer layers (column 12, lines 58-63). It is noted that the present invention is also directed to making an article comprising alternating fiber and polymer layers wherein the polymer layers bond the fiber

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layers together and recesses are formed in the polymer layers (p. 9, [0022]); therefore the skilled artisan would have appreciated that the recesses of Prevorsek would also minimize shearing stress between the fabric layers during bonding/molding.

The reference teaches curing the composite formed by the fabric and polymer layers to form the finished article (column 13, lines 6-10; column 22, lines 1-6).

Regarding claim 2, the reference teaches the fabric layers can be multi-axial bonded fabrics (column 5, lines 42-55).

Regarding claim 5, the fabric articles create extending base layers.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 1, 6, 8, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prevorsek et al.

With respect to claim 1, it is noted that examiner interpreted the reference to mean that the fabric layers were cut fabric layers. If it not taken that such is the case, it would have been obvious to provide the plurality of fabric layers 14a-14e by cutting a continuous supply of fabric into discrete layers because such is notoriously well know and conventional and it allows for an expedited manufacturing process.

It is also noted that the examiner interpreted the reference to mean that molding of the fabric and polymer layers takes place on some type of working surface. If such is not the case, it would have been obvious to use a working surface because such is notoriously well known and

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conventional because it allows for pressure to be applied to the composite without unwanted deformation of the same.

Regarding claim 6, the reference is silent as to a curing tool. It would have been obvious to use a curing tool during the curing/setting step taught by the reference (column 13, lines 9-10) because such is notoriously well known and conventional and it supports the article and/or imparts a desired shape thereto.

Regarding claim 8, the reference is silent as to a reference device. It would have been obvious to use a reference device in conjunction with the working surface because such is notoriously well known and conventional for proper alignment of the product being formed.

Regarding claim 30, the reference teaches the polymer layers can have smaller dimensions than the fabric layers (column 12, lines 1-13). Selection of a particular arrangement for the fabric layers, coextensive polymer layers, and non-coextensive polymer layers would have been within purview of the skilled artisan at the time the invention was made.

9. Claims 3-4, 12-14, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Prevorsek et al. as applied to claim 1 above, and further in view of Czetto (US 6319862).

Regarding claims 3 and 13, the reference is silent as to these limitations. It would have been obvious to the skilled artisan to apply the polymer layer as a coating by removing a release layer therefrom and pressing the polymer layer onto the fabric because such is known in the body armor art, as taught by Czetto (column 3, lines 50-53), wherein the skilled artisan reading the reference as a whole would have appreciated that the form of the polymer layer and its application method is not critical to the invention.

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Regarding claims 4 and 14, cutting the fabric before or after the polymer layer is applied thereto would have been within purview of the skilled artisan at the time the invention was made absent any unexpected results.

Regarding claim 12, it would have been obvious to provide a fabric layers as a plurality of fabric layers because such is known in the body armor art, as taught by Czetto (column 2, line 65 – column 3, line 14), and this allows for strengthening of the finished product.

Regarding claim 29, whether to provide one or all of the cut fabric layers with a releasable layer would have been within purview of the skilled artisan at the time the invention was made depending on whether or not the polymer layer is attached to the fabric layer before during stacking of the layers.

10. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prevorsek et al. as applied to claim 1 above, and further in view of Dyke (WO 01/96111).

Regarding claim 7, the reference is silent as to this limitation. It would have been obvious to provide the working surface with a release layer because such is known in the body armor art, as taught by Dyke (p. 9, lines 30-34) wherein this prevents the finished product from sticking to the surface allowing for easy removal therefrom.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Prevorsek et al. as applied to claim 1 above, and further in view of Burns (US 5514232).

Regarding claim 9, the reference is silent as to this limitation. It would have been obvious to place an adhesive layer on the working surface because such is known, as taught by Burns (column 4, lines 60-64), and this would keep the layers from shifting during molding.

Response to Arguments

12. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Jessica L. Rossi** whose telephone number is **703-305-5419**. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W. Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

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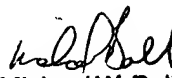
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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Jessica L. Rossi
Patent Examiner
Art Unit 1733



Jlr
July 28, 2003



Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700